

ABSTRACT OF THE DISCLOSURE

A method for alteration of the morphology of cellulose fibers, particularly softwood fibers, by (a) subjecting the fibers to a metal ion-activated peroxide treatment carried out at a pH of between about 1 and about 9, preferably between 3 and 7, and
5 (b) subjecting the treated fibers to a refining treatment thereby converts SW fibers to HW-like fibers in many respects. The metal ion-activated peroxide treatment has been noted to act on pulp cellulose and hemi-cellulose, causing oxidation and oxidative degradation of cellulose fibers. The chemical treatment of the pulp, taken alone, is not sufficient to attain the desired modification of the morphology of the fibers, however,
10 subsequent refining or like mechanical treatment of the chemically-treated fibers to achieve a given degree of refinement of the fibers requires dramatically less refining energy to achieve a desired end point of refinement and to impart other desirable properties to the pulp. A pulp of modified SW fibers and a mixture of HW fibers and modified HW fibers are disclosed.

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